



US 20020197749A1

(19) **United States**(12) **Patent Application Publication** (10) **Pub. No.: US 2002/0197749 A1**
Knight et al. (43) **Pub. Date: Dec. 26, 2002**(54) **METHOD OF MONITORING AND
CONTROLLING A PHOTORESIST EDGE
BEAD****Publication Classification**(51) **Int. Cl.⁷** **H01L 21/66**; G01R 31/26;
H01L 21/302; H01L 21/461;
H01L 21/31; H01L 21/469
(52) **U.S. Cl.** **438/14**; 438/725; 438/948;
438/780(75) **Inventors:** **Dennis Knight**, South Wales (GB);
Andrew Naylor, Newport (GB);
Rachel Watkins, MonMouthshire (GB);
Derek Stanley, Gwent (GB)

Correspondence Address:

GEORGE O. SAILE
20 MCINTOSH DRIVE
POUGHKEEPSIE, NY 12603 (US)(73) **Assignee:** **European Semiconductor Manufactur-
ing Limited**(21) **Appl. No.:** **09/898,388**(22) **Filed:** **Jul. 5, 2001**(30) **Foreign Application Priority Data**

Jun. 21, 2001 (GB) 0115259.4

(57) **ABSTRACT**

A process, and structure, used to monitor and control the level of photoresist removed at the periphery of a photoresist coated, semiconductor substrate, has been developed. A monitoring structure comprised of a group of graduated scribe marks, laser formed near the periphery of the semiconductor, monitoring substrate, is included with product semiconductor substrates, during the application of a photoresist layer, and during the photoresist edge bead removal procedure. The width of the photoresist edge bead, removed from product semiconductor substrates is determined via examination of the monitoring semiconductor substrate, in terms of measuring the level of graduated scribe marks, now exposed. This measurement determines the status of the product semiconductor substrates, in regards to continued processing, or rework.

